

IN THE DRAWINGS:

Figure 3 is amended by inserting --(Prior Art)-- on the Replacement Sheet provided with this response.

REMARKS

Claims 1-15 are pending in the application, and all claims are rejected. With this response, claims 1-4 and 6-15 are amended, claim 5 is cancelled, and new claims 16-20 are added. All amendments and new claims are fully supported by the specification as originally filed. Support for the amendments to the claims can be found at least at page 6, lines 33-34; page 9, lines 19-32; page 11, lines 19-21; page 18, lines 9-27; and page 19, lines 21-34, as well as original, now cancelled, claim 5. Support for new claim 16 can be found at least at page 19, lines 4-15. Support for new claims 17-20 can be found at least at page 15, lines 28-33 and page 19, lines 17-34. New claims 19 and 20 are means-plus-function claims, and the structure corresponding to the functions recited in the claims can be found at least at the above mentioned section of the specification as filed. Applicant respectfully requests withdrawal of the objections and rejections of the Office Action in light of the amendments and arguments submitted with this response.

Drawings

At section 2, page 2 of the Office action Figure 3 is objected to, because it is asserted that Figure 3 should be designated as Prior Art. Figure 3 is amended, and is now designated as Prior Art in its legend. Therefore, applicant respectfully requests withdrawal of the objection to Figure 3.

Claim Rejections Under § 101

Claims 14 and 15 are amended to make clear that the computer program code is embodied in a computer readable storage structure for executing the method described in claims 14 and 15. Therefore, claims 14 and 15 as amended are directed to subject matter which produces a useful, tangible, and concrete result, and thus claims 14 and 15 are directed to statutory subject matter.

Claim Rejections Under § 112

At section 4, page 3 of the Office Action claims 1-15 are rejected under 35 U.S.C. § 112, second paragraph as indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention.

At section 5, page 3, claims 1-3 and 12-13 are rejected for insufficient antecedent basis. Applicant respectfully submits that claims 1-3 and 12-13 as amended contain

sufficient antecedent basis for the limitation “time required” recited in the claims. It is now clear that the limitation refers to the “time required” as previously recited in the claims.

At section 6, page 4, claims 1-2, 4, 11 and 13 are rejected for insufficient antecedent basis. Applicant respectfully submits that claim 1-2, 4, 11 and 13 as amended contain sufficient antecedent basis for the limitation “an initialization” recited in the claims. It is now clear that the limitation refers to the “initialization” as previously recited in the claims.

At section 7, page 4, claims 7-10 are rejected as indefinite because the claims use the trademark MULTIMEDIACARD ASSOCIATION as a limitation of the claim to identify or describe a particular product. Claims 7-10 are amended to remove the trademark MULTIMEDIACARD ASSOCIATION, and as such applicant respectfully requests the withdrawal of the rejections to claims 7-10.

At section 8, page 4, claims 12 and 13 are rejected as indefinite due to insufficient antecedent basis. Claims 12 and 13 are amended to make clear that “respective initialization” refers to the limitation previously recited in the claim.

At section 9, page 5, claim 12 is rejected as indefinite due to insufficient antecedent basis. Claim 12 is amended to recite “said host device,” and this amendment makes it clear that the limitation refers to the “host device” previously recited in claim 12.

At section 10, on page 5 claims 14 and 15 are rejected as indefinite. As discussed above, claims 14 and 15 are amended to make clear that the claims cover patent-eligible subject matter. Therefore, claims 14 and 15 as amended are definite.

In light of the above discussion, application respectfully requests withdrawal of the rejections to claims 1-15 under § 112, second paragraph.

Claim Rejections Under § 102

At section 11, page 6 of the Office Action claims 1-3 and 11-13 are rejected under 35 U.S.C. § 102(b) as anticipated by Vander Kamp et al. (U.S. Patent No. 6,233,625). Independent claim 1 is amended to incorporate the limitations recited by cancelled dependent claim 5. In particular, independent claim 1 as amended recites a method, and now includes combining information from each of at least two peripheral devices to produce combined information indicating a time which is required at the most by any of the peripheral devices for its respective initialization.

On page 9, lines 11-15 of the Office Action, the Office admits that Vander Kamp fails to disclose or suggest two peripheral devices, each transmitting information indicative of the time required for its own initialization to the host device, wherein the information is

combined to information indicating a time which is required at the most by any of the peripheral devices for its respective initialization, and wherein the host device evaluates the combined information. Therefore, claim 1 as amended is not disclosed or suggested by Vander Kamp, because Vander Kamp fails to disclose or suggest all the limitations recited in amended claim 1.

Dependent claims 2-3 and 10 depend from amended independent claim 1, contain all the limitations recited therein, and are not disclosed or suggested by Vander Kamp at least in view of their dependencies.

Furthermore, independent claims 11 and 13-14 are amended to include limitations similar to those recited by amended claim 1. Therefore, for at least the reasons discussed above in relation to amended claim 1, claims 11 and 13-14 are not disclosed or suggested by Vander Kamp.

Independent claim 12 is amended, and is now directed to a memory card. On page 10, line 14 of the Office Action, the Office admits that Vander Kamp fails to disclose or suggest a peripheral device that is a memory card. Since claim 12 as amended recites a memory card, applicant respectfully submits that claim 12 is not disclosed or suggested by Vander Kamp.

Claim Rejections Under § 103

At section 12, page 8 of the Office Action claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as unpatentable over Vander Kamp in view of Crittenden et al. (U.S. Patent No. 5,566,351). As discussed above, claim 5 is cancelled and its limitations incorporated into amended independent claim 1. Therefore, applicant will discuss independent claim 1 with regards to the rejection as applied to claim 5.

Applicant respectfully submits that claim 1 as amended is not disclosed or suggested by the cited references. Vander Kamp and Crittenden, alone or in combination, fail to disclose or suggest transmitting information indicative of a time required for an initialization of a respective one of at least two peripheral devices from each of the at least two peripheral devices to a host device, and combining the information from each of said at least two peripheral devices to produce combined information indicating a time which is required at the most by any of said at least two peripheral devices for its respective initialization, and evaluating said combined information.

As stated above, on page 9, lines 11-15 of the Office Action, the Office acknowledges that Vander Kamp fails to teach at least two peripheral devices each transmitting information

indicative of the time required for its own initialization to the host device, and combining the information to produce information indicative of a time which is required at the most by any of the at least two peripheral devices for its respective initialization. The Office relies on Crittenden for this teaching, but Crittenden also fails to disclose or suggest this limitation recited by amended claim 1.

Crittenden relates to an adaptive polling system, wherein the amount of time a system is idle is adjusted iteratively in order to match the speed of a peripheral device as closely as possible. See Crittenden column 5, lines 1-17. The total time a computer spends waiting for a peripheral device to be in a ready state is accumulated and used to maintain a running average of the time required for the device to be ready. See Crittenden column 5, lines 17-20. This average is then used as a starting point for the next polling delay. The technique disclosed in Crittenden is designed to maximize data throughput and to minimize computer load by avoiding excessive busy polling. See Crittenden column 5, line 26-29.

Crittenden only discloses determining the average wait time of one peripheral device, and does not disclose or suggest combining information from each of at least two peripheral devices in order to determine the most time required for initialization of the respective peripheral devices, as recited in amended claim 1. In fact, it is apparent to one of skill in the art that the purpose disclosed by Crittenden, maximizing data throughput, teaches away from combining the initialization time required for multiple peripheral devices. Since Crittenden discloses determining the average wait time for a peripheral device, and not the initialization time for that device, the teachings of Crittenden are limited to addressing peripheral devices separately so that data can be sent to a ready peripheral device as soon as possible, which would be frustrated if the wait times for other peripheral devices were taken into consideration. In contrast, amended claim 1 combines information indicating a time which is required for initialization of at least two peripheral devices to arrive at the most amount of time required to initialize any one of the peripheral devices. Therefore, the cited references, alone or in combination, do not disclose or suggest all the limitations recited in amended claim 1, and amended claim 1 is patentable over the cited references.

Claim 4 depends from independent claim 1, and is patentable over the cited references at least in view of its dependency.

Independent claims 11, 13 and 14 are amended to contain limitations similar to those recited by amended claim 1. Therefore, for at least the reasons discussed above in relation to claim 1, independent claims 11, 13 and 14 are not disclosed or suggested by the cited references.

At section 13, page 10 of the Office Action claims 6-10 are rejected under 35 U.S.C. § 103(a) as unpatentable over Vander Kamp in view of The MultiMediaCard System Specification, version 3.31 by the MMCA Technical Committee. Claims 6-10 all depend directly or indirectly from independent claim 1, and are patentable at least in view of their dependencies.

Furthermore, independent claim 12 is amended, and is now directed to a memory card. In the rejection of claim 6, the Office considered claim 6 to be disclosed by Vander Kamp in view of the MultiMediaCard Specification. However, applicant respectfully submits that Vander Kamp in view of the MultiMediaCard Specification fails to disclose or suggest the limitations of amended claim 12, because there is no motivation to combine the teachings of Vander Kamp with the teachings of the MultiMediaCard Specification. The peripheral devices discussed in Vander Kamp are SCSI devices, which require a motor spin-up. Vander Kamp specifically addresses the problem that the electromechanical motors which drive the SCSI devices consumer a greater amount of power and current when they are first turned on. See Vander Kamp column 1, lines 39-45. In contrast to SCSI devices, memory cards do not use an electromechanical motor, and therefore to not require an excessive amount of power and current during the initialization phase. Therefore, there is no motivation to combine the teachings of Vander Kamp using memory cards as peripheral devices. Without motivation to combine the cited references, alone or in combination, fail to disclose or suggest all the limitations recited in amended claim 12. Therefore, amended claim 12 is patentable over the cited references.

Independent claim 15 is amended to also be directed to a memory card. Therefore, for at least the reasons discussed above in relation to claim 12, claim 15 is not disclosed or suggested by the cited references.

New Claim 16

Applicant respectfully submits that new claim 16 is patentable over the cited references. New claim 16 depends from independent claim 1, and therefore is patentable at least in view of its dependency. In addition, new claim 16 requires that the initialization is performed in an open-drain mode of the host device. An open-drain mode has the advantage that all peripheral devices may transmit initialization time information simultaneously. The host device does not even has to know the number of peripheral devices. The host device will simply see a timeout value, during which time all peripheral devices can be initialized.

Which a host working in an open drain mode, initialization time information from peripheral devices is combined in such a way that a result will be higher than an indication from any individual peripheral device. The cited references, alone or in combination, do not disclose or suggest transmitting information indicative of a time required for initialization of peripheral devices in an open drain mode of a host device. Therefore, new claim 16 is patentable over the cited references.

New Claims 17-20

Applicant respectfully submits that new independent claims 17 and 19 are patentable over the cited references. New claims 17 and 19 contain limitations similar to those recited in claim 1, and are patentable over the cited references at least in view of the above discussion in relation to claim 1. In addition, new claims 18 and 20 depend from new independent claims 17 and 19, and are patentable at least in view of their dependencies.

Conclusion

The objections and rejections of the Office Action having been obviated by amendment or shown to be inapplicable, applicant respectfully requests withdrawal thereof. The Commissioner is hereby authorized to charge deposit account 23-0442 for any fee deficiencies required to submit this response.

Respectfully submitted,



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APPENDIX